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PAGE: 1

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/422,999

DATE: 11/09/1999
 TIME: 16:44:43

Input Set: I422999.RAW

This Raw Listing contains the General Information Section and up to first 5 pages.

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1 <110> APPLICANT: Kawasaki, Hiroaki
2 Graybiel, Ann
3 Housman, David
4 <120> TITLE OF INVENTION: Genes Integrating Signal Transduction Pathways
5 <130> FILE REFERENCE: MIT-103
6 <140> CURRENT APPLICATION NUMBER: US/09/422,999
7 <141> CURRENT FILING DATE: 1999-10-22
8 <150> EARLIER APPLICATION NUMBER: US 60/105,507
9 <151> EARLIER FILING DATE: 1998-10-23
10 <150> EARLIER APPLICATION NUMBER: US 60/108,685
11 <151> EARLIER FILING DATE: 1998-11-16
12 <160> NUMBER OF SEQ ID NOS: 18
13 <170> SOFTWARE: PatentIn Ver. 2.0
14 <210> SEQ ID NO 1
15 <211> LENGTH: 2250
16 <212> TYPE: DNA
17 <213> ORGANISM: Mus musculus
18 <220> FEATURE:
19 <221> NAME/KEY: CDS
20 <222> LOCATION: (166)..(1989)
21 <223> OTHER INFORMATION: CalDAG-GEFI
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25 gctctgagag tgtaacttgg gtcttagccca ctggcaccgg cagcc atg gcg agc act 177
26 Met Ala Ser Thr
27
28 ctg gac ctg gac aag ggt tgc acc gtg gag gag ctg ctc cgt ggc tgt 225
29 Leu Asp Leu Asp Lys Gly Cys Thr Val Glu Glu Leu Leu Arg Gly Cys
30 5 10 15 20
31 atc gaa gcc ttt gat gac tct gga aag gtg cga gat cca cag cta gtg 273
32 Ile Glu Ala Phe Asp Asp Ser Gly Lys Val Arg Asp Pro Gln Leu Val
33 25 30 35
34 cgc atg ttt ctc atg atg cac ccc tgg tac ata cct tcc tct cag ctg 321
35 Arg Met Phe Leu Met Met His Pro Trp Tyr Ile Pro Ser Ser Gln Leu
36 40 45 50
37 gct tcg aaa ctg ctc cac ttc tat cag caa tcc cgg aag gac aac tcc 369
38 Ala Ser Lys Leu Leu His Phe Tyr Gln Gln Ser Arg Lys Asp Asn Ser
39 55 60 65
40 aat tcc cta cag gtg aaa acc tgt cac ctg gtc agg tac tgg gtc tca 417
41 Asn Ser Leu Gln Val Lys Thr Cys His Leu Val Arg Tyr Trp Val Ser
42 70 75 80
43 gcc ttc cca gca gag ttc gac ttg aac cca gag ctg gct gaa ccg atc 465
44 Ala Phe Pro Ala Glu Phe Asp Leu Asn Pro Glu Leu Ala Glu Pro Ile

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PAGE: 2

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/422,999

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 TIME: 16:44:43

Input Set: I422999.RAW

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49	agc ctc atc gac atc gag agt gtc ccc acc tac aag tgg aag cgg cag				561
50	Ser Leu Ile Asp Ile Glu Ser Val Pro Thr Tyr Lys Trp Lys Arg Gln				
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52	gtg acc cag cgg aac cct gtg gaa cag aaa aag cgc aag atg tcc ctg				609
53	Val Thr Gln Arg Asn Pro Val Glu Gln Lys Lys Arg Lys Met Ser Leu				
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56	Leu Phe Asp His Leu Glu Pro Met Glu Leu Ala Glu His Leu Thr Tyr				
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58	ttg gag tat cgg tcc ttc tgc aag atc ctg ttc cag gac tat cac agc				705
59	Leu Glu Tyr Arg Ser Phe Cys Lys Ile Leu Phe Gln Asp Tyr His Ser				
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61	ttt gtg act cat ggc tgc act gta gac aat ccg gtc ctg gag cga ttc				753
62	Phe Val Thr His Gly Cys Thr Val Asp Asn Pro Val Leu Glu Arg Phe				
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64	atc tcc ctc ttc aac agt gtc tct cag tgg gtc caa ctc atg atc ctc				801
65	Ile Ser Leu Phe Asn Ser Val Ser Gln Trp Val Gln Leu Met Ile Leu				
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67	agc aag ccc aca gcc acg cag cgg gcg ctg gtc atc aca cat ttc gtg				849
68	Ser Lys Pro Thr Ala Thr Gln Arg Ala Leu Val Ile Thr His Phe Val				
69		215	220	225	
70	cat gtg gca gag aag ctg ctg cag ctg cag aac ttc aac acg ttg atg				897
71	His Val Ala Glu Lys Leu Leu Gln Leu Gln Asn Phe Asn Thr Leu Met				
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73	gcc gtc gtg gga ggc ctg agc cac agc tcc atc tca cgc ctc aag gag				945
74	Ala Val Val Gly Gly Leu Ser His Ser Ser Ile Ser Arg Leu Lys Glu				
75		245	250	255	260
76	acc cac agc cat gtc agc cct gac acc atc aag ctc tgg gaa ggt ctg				993
77	Thr His Ser His Val Ser Pro Asp Thr Ile Lys Leu Trp Glu Gly Leu				
78		265	270	275	
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80	Thr Glu Leu Val Thr Ala Thr Gly Asn Tyr Ser Asn Tyr Arg Arg Arg				
81		280	285	290	
82	ctg gcg gcc tgc gtg ggc ttc cgc ttt cct atc ctg ggt gtg cac ctc				1089
83	Leu Ala Ala Cys Val Gly Phe Arg Phe Pro Ile Leu Gly Val His Leu				
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85	aag gat cta gtg gct ctg cag ctg gct cct gac tgg ctg gac cca				1137
86	Lys Asp Leu Val Ala Leu Gln Leu Ala Leu Pro Asp Trp Leu Asp Pro				
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88	ggt cgg acc cgg ctc aat gga gcc aag atg agg cag ctt ttc agc att				1185
89	Gly Arg Thr Arg Leu Asn Gly Ala Lys Met Arg Gln Leu Phe Ser Ile				
90		325	330	335	340
91	ctg gag gag ttg gct atg gtg acc agt ctt cga cca cca gtg caa gcc				1233
92	Leu Glu Glu Leu Ala Met Val Thr Ser Leu Arg Pro Pro Val Gln Ala				
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94	aac ccc gac ctg ctg agt ctg ctc acg gtg tcc ctg gac cag tat cag				1281

PAGE: 3

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/422,999DATE: 11/09/1999
TIME: 16:44:43

Input Set: I422999.RAW

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98	Thr Glu Asp Glu Leu Tyr Gln Leu Ser Leu Gln Arg Glu Pro Arg Ser			
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100	aag tca tcg ccc acc agc ccc acc agc tgc acc ccg cct ccc cg ^g ccg	1377		
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102	390	395	400	
103	cct gtg ctg gaa gag tgg acc tca gtt gcc aag cct aag ctg gac caa	1425		
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106	gcc ttg gtg gcc gag cac att gag aag atg gtg gag tct gtg ttc cg ^g	1473		
107	Ala Leu Val Ala Glu His Ile Glu Lys Met Val Glu Ser Val Phe Arg			
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109	aac ttt gac gtt gat ggg gac ggt cac atc tcc cag gag gag ttc cag	1521		
110	Asn Phe Asp Val Asp Gly Asp Gly His Ile Ser Gln Glu Glu Phe Gln			
111	440	445	450	
112	atc atc cgg ggc aac ttc cct tat ctc agc gcc ttt ggg gac ttg gac	1569		
113	Ile Ile Arg Gly Asn Phe Pro Tyr Leu Ser Ala Phe Gly Asp Leu Asp			
114	455	460	465	
115	cag aac cag gat ggc tgc atc agc cgg gag gag atg att tcc tac ttc	1617		
116	Gln Asn Gln Asp Gly Cys Ile Ser Arg Glu Glu Met Ile Ser Tyr Phe			
117	470	475	480	
118	ctg cgc tcc agc tcc gtg ctg gga ggc cgc atg ggc ttc gta cac aac	1665		
119	Leu Arg Ser Ser Ser Val Leu Gly Gly Arg Met Gly Phe Val His Asn			
120	485	490	495	500
121	tcc cag gag agt aac tcg cta agg ccg gtc gcc tgc cga cac tgc aaa	1713		
122	Phe Gln Glu Ser Asn Ser Leu Arg Pro Val Ala Cys Arg His Cys Lys			
123	505	510	515	
124	gct ctg atc ctg ggc atc tac aag cag ggc ctc aaa tgt aga gct tgt	1761		
125	Ala Leu Ile Leu Gly Ile Tyr Lys Gln Gly Leu Lys Cys Arg Ala Cys			
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127	ggt gtg aac tgc cac aag cag tgc aaa gac cga ctg tca gtg gaa tgt	1809		
128	Gly Val Asn Cys His Lys Gln Cys Lys Asp Arg Leu Ser Val Glu Cys			
129	535	540	545	
130	cgc cgc cgc gcc cag agt gtg agc ctg gag ggc tct gca ccc tct ccc	1857		
131	Arg Arg Arg Ala Gln Ser Val Ser Leu Glu Gly Ser Ala Pro Ser Pro			
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133	tca ccc aca cat acc cac cat cgg gcc ttc agc ttc tcc ctg cct cgc	1905		
134	Ser Pro Thr His Thr His Arg Ala Phe Ser Phe Ser Leu Pro Arg			
135	565	570	575	580
136	cca ggc agg cgc agc tct cgg cct cca gag atc cgt gaa gag gag gtg	1953		
137	Pro Gly Arg Arg Ser Ser Arg Pro Pro Glu Ile Arg Glu Glu Val			
138	585	590	595	
139	cag act gtg gaa gat ggt gtg ttc gac atc cac tta taagacgtg	1999		
140	Gln Thr Val Glu Asp Gly Val Phe Asp Ile His Leu			
141	600	605		
142	tgactatcaa ggactcattc ctgccttggaa gaaaagactt ggaggcagagc agggagccag	2059		
143	ggattctggg gcaggaggtt ggggctgaag gtggggaaag ttgaagggtgg catgcactga	2119		
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PAGE: 4

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/422,999DATE: 11/09/1999
TIME: 16:44:43

Input Set: I422999.RAW

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155 35 40 45
Ser Ser Gln Leu Ala Ser Lys Leu Leu His Phe Tyr Gln Gln Ser Arg
156 50 55 60
Lys Asp Asn Ser Asn Ser Leu Gln Val Lys Thr Cys His Leu Val Arg
157 65 70 75 80
Tyr Trp Val Ser Ala Phe Pro Ala Glu Phe Asp Leu Asn Pro Glu Leu
158 85 90 95
Ala Glu Pro Ile Lys Glu Leu Lys Ala Leu Leu Asp Gln Glu Gly Asn
159 100 105 110
Arg Arg His Ser Ser Leu Ile Asp Ile Glu Ser Val Pro Thr Tyr Lys
160 115 120 125
Trp Lys Arg Gln Val Thr Gln Arg Asn Pro Val Glu Gln Lys Lys Arg
161 130 135 140
Lys Met Ser Leu Leu Phe Asp His Leu Glu Pro Met Glu Leu Ala Glu
162 145 150 155 160
His Leu Thr Tyr Leu Glu Tyr Arg Ser Phe Cys Lys Ile Leu Phe Gln
163 165 170 175
Asp Tyr His Ser Phe Val Thr His Gly Cys Thr Val Asp Asn Pro Val
164 180 185 190
Leu Glu Arg Phe Ile Ser Leu Phe Asn Ser Val Ser Gln Trp Val Gln
165 195 200 205
Leu Met Ile Leu Ser Lys Pro Thr Ala Thr Gln Arg Ala Leu Val Ile
166 210 215 220
Thr His Phe Val His Val Ala Glu Lys Leu Leu Gln Leu Gln Asn Phe
167 225 230 235 240
Asn Thr Leu Met Ala Val Val Gly Gly Leu Ser His Ser Ser Ile Ser
168 245 250 255
Arg Leu Lys Glu Thr His Ser His Val Ser Pro Asp Thr Ile Lys Leu
169 260 265 270
Trp Glu Gly Leu Thr Glu Leu Val Thr Ala Thr Gly Asn Tyr Ser Asn
170 275 280 285
Tyr Arg Arg Arg Leu Ala Ala Cys Val Gly Phe Arg Phe Pro Ile Leu
171 290 295 300
Gly Val His Leu Lys Asp Leu Val Ala Leu Gln Leu Ala Leu Pro Asp
172 305 310 315 320
Trp Leu Asp Pro Gly Arg Thr Arg Leu Asn Gly Ala Lys Met Arg Gln
173 325 330 335
Leu Phe Ser Ile Leu Glu Glu Leu Ala Met Val Thr Ser Leu Arg Pro

PAGE: 5

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/422,999DATE: 11/09/1999
TIME: 16:44:43

Input Set: I422999.RAW

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199	370	375	380
200	Glu Pro Arg Ser Lys Ser Ser Pro Thr Ser Pro	Thr Ser Cys Thr Pro	
201	385	390	395
202	Pro Pro Arg Pro Pro Val Leu Glu Glu Trp	Thr Ser Val Ala Lys Pro	
203	405	410	415
204	Lys Leu Asp Gln Ala Leu Val Ala Glu His Ile Glu	Lys Met Val Glu	
205	420	425	430
206	Ser Val Phe Arg Asn Phe Asp Val Asp Gly Asp Gly	His Ile Ser Gln	
207	435	440	445
208	Glu Glu Phe Gln Ile Ile Arg Gly Asn Phe Pro	Tyr Leu Ser Ala Phe	
209	450	455	460
210	Gly Asp Leu Asp Gln Asn Gln Asp Gly Cys Ile	Ser Arg Glu Glu Met	
211	465	470	475
212	Ile Ser Tyr Phe Leu Arg Ser Ser Ser Val Leu Gly	Gly Arg Met Gly	
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214	Phe Val His Asn Phe Gln Glu Ser Asn Ser Leu Arg	Pro Val Ala Cys	
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216	Arg His Cys Lys Ala Leu Ile Leu Gly Ile Tyr Lys	Gln Gly Leu Lys	
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218	Cys Arg Ala Cys Gly Val Asn Cys His Lys Gln Cys	Lys Asp Arg Leu	
219	530	535	540
220	Ser Val Glu Cys Arg Arg Ala Gln Ser Val Ser Leu	Glu Gly Ser	
221	545	550	555
222	Ala Pro Ser Pro Ser Pro Thr His Thr His His Arg	Ala Phe Ser Phe	
223	565	570	575
224	Ser Leu Pro Arg Pro Gly Arg Arg Ser Ser Arg Pro	Pro Glu Ile Arg	
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242	gac ctg gac aag ggc tgc acg gtg gag gag ctg ctc cgc ggg tgc atc	223	
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PAGE: 6

VERIFICATION SUMMARY
PATENT APPLICATION US/09/422,999

DATE: 11/09/1999
TIME: 16:44:43

Input Set: I422999.RAW

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